For the Examiner's convenience, all pending claims are listed below. Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

1. An isolated polypeptide comprising an amino acid sequence of SEQ ID NO:1

2. A method for producing a polypeptide of claim 1, the method comprising:

a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide encoding the polypeptide of claim 1, and

b) recovering the polypeptide so expressed.

3. A method for detecting a transcript encoding a polypeptide in a sample, the method comprising:

a) hybridizing a polynucleotide which encodes the polypeptide of claim 1 with the sample containing nucleic acids,

b) detecting complex formation between the polynucleotide and at least one nucleic acid of the sample, wherein complex formation indicates the presence of the transcript of the polypeptide in the sample.

4. The method of claim 3, wherein the nucleic acids of the sample are amplified prior to hybridization.

5. A composition comprising an effective amount of a polypeptide of claim 1 and an acceptable excipient.

6. A method for screening a compound for effectiveness as an agonist of a polypeptide of claim 1, the method comprising:

a) exposing a sample comprising a polypeptide of claim 1 to a compound, and

b) detecting agonist activity in the sample.

7. A method for screening a compound for effectiveness as an antagonist of a polypeptide of claim 1, the method comprising:

a) exposing a sample comprising a polypeptide of claim 1 to a compound, and

b) detecting antagonist activity in the sample.

8. A method for using a protein to screen a plurality of molecules or compounds to identify at least one ligand, the method comprising:

a) combining the protein of claim 1 with the molecules or compounds under conditions to allow specific binding; and

b) detecting specific binding, thereby identifying a ligand which specifically binds the protein.

9. The method of claim 8 wherein the molecules or compounds are selected from DNA molecules, RNA molecules, peptide nucleic acids, peptides, proteins, mimetics, agonists, antagonists, antibodies, immunoglobulins, inhibitors, and drugs.

10. An isolated polynucleotide encoding a polypeptide of claim 1, or the complement thereof.

11. An isolated polynucleotide sequence comprising SEQ ID NO:2, or the complement thereof.

12. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 10, the method comprising:

a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and

which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and

b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

13. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 10, the method comprising:

a) amplifying said target polynucleotide or fragment thereof using polymerase chain reaction amplification, and

b) detecting the presence or absence of said amplified target polynucleotide or fragment thereof, and, optionally, if present, the amount thereof.

14. A method for screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a polynucleotide sequence of claim 10, the method comprising:

a) exposing a sample comprising the target polynucleotide to a compound, under conditions suitable for the expression of the target polynucleotide,

b) detecting altered expression of the target polynucleotide, and

c) comparing the expression of the target polynucleotide in the presence of varying amounts of the compound and in the absence of the compound.

15. A method for assessing toxicity of a test compound, said method comprising:

a) treating a biological sample containing nucleic acids with the test compound;

b) hybridizing the nucleic acids of the treated biological sample with a probe comprising at least 20 contiguous nucleotides of a polynucleotide of claim 10 under conditions whereby a specific hybridization complex is formed between said probe and a target polynucleotide in the biological sample, said target polynucleotide comprising a polynucleotide sequence of a polynucleotide of claim 10 or fragment thereof;

c) quantifying the amount of hybridization complex; and

d) comparing the amount of hybridization complex in the treated biological sample with the amount of hybridization complex in an untreated biological sample, wherein a difference in the amount of hybridization complex in the treated biological sample is indicative of toxicity of the test compound.

16. A purified antibody which specifically binds to the polypeptide of claim 1.

17. The antibody of claim 16, wherein the antibody is:

(a) a chimeric antibody;

(b) a single chain antibody;

(c) a Fab fragment;

(d) a $F(ab')_2$ fragment;

(e) a Fv fragment; or

(f) a humanized antibody.

18. A pharmaceutical composition comprising an antibody of claim 16 and a pharmaceutically acceptable excipient.

19. A method of diagnosing a condition or disease associated with the expression of AUTOP in a subject, comprising administering to said subject an effective amount of the pharmaceutical composition of claim 18.

20. A pharmaceutical composition of claim 18, wherein the antibody is labeled.